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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,656	07/30/2003	Manabu Yamazoe	03500.013715.1	6853

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EXAMINER
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SHERALI, ISHRAT I

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/629,656	YAMAZOE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sherali Ishrat	2621	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6,10-14,17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,10-14,17 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/337,549.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/30/2003</u> .   | 6) <input type="checkbox"/> Other: ____                                     |

## DETAILED ACTION

### Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 and 13-14 are rejected under 35 U.S.C. 102 (b) as being anticipated by Tashiro et al. (5748773).

Regarding claims 1 and 13-14 Tashiro discloses forming a histogram of an image (Tashiro, in col. 9, lines 25-30, states "FIG. 9 shows a histogram of original image" which corresponds to forming a histogram of an image ), setting an image processing condition in accordance with form histogram (Tashiro, in col. 9, lines 25-27, states "FIG. 9 shows a histogram of original image. That is an original image includes a background portion [also referred to as non-information portion], and characters portion, and Tashiro, in col. 12, lines 38-42, states "An original image can be recorded while emphasizing a light information portion [character portion] to be darker without recording an unnecessary portion [a background portion i.e., a non-information portion]" which corresponds to setting an image processing condition in accordance with form histogram) comprising:

judging from the shape of formed histogram whether the original image is image picture (Tashiro, col. 13, lines 25-30, states "In this histogram [Figure 9] a

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range of signal levels [luminance signal level] to have  $I_{max}$  as center corresponds to a background portion [non information portion] and range from  $I_{min}$  to non information portion corresponds to character portion [an information portion]" which corresponds to judging from the shape of formed histogram whether the original image is image picture [background/character]); and

if it is judged that the original image is not an image picture not performing the image processing (Tashiro, in col. 12, lines 38-42, states "An original image can be recorded while emphasizing a light information portion [character portion] to be darker without recording an unnecessary portion [a background portion i.e., a non-information portion] and Tashiro in col. 14, lines 20-27, states "FIG. 17 shows a histogram of an original. As shown in FIG 17, an original of the normal image type is subjected for processing for increasing density of light character portion [information portion] without recording a background portion [non-information]. This corresponds to if it is judged that the original image is not an image picture [non-information/ background portion] not performing the image processing);

Regarding claim 2, Tashiro discloses a value of the formed histogram a degree of 0 is counted (Tashiro in col. 9, lines 65-67 thru col. 10, lines 1-3, states "In the detection of the lightness level  $I_{max}$  the frequencies are checked from the 255<sup>th</sup> level to toward the 0<sup>th</sup> level, 0 is given  $I_{min}$  and 255 is given  $I_{max}$ ". This corresponds to a value of the formed histogram a degree of 0 is counted") and

whether the original image is an image picture or not is judged from a count result (Tashiro, col. 13, lines 25-30, states "In this histogram [Figure 9] a

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range of signal levels [luminance signal level] to have  $I_{\max}$  [255<sup>th</sup>] as center corresponds to a background portion [non information portion] and range from  $I_{\min}$  [0<sup>th</sup>] to non information portion corresponds to character portion [an information portion]". This corresponds to whether the original image is an image picture or not is judged from a count result ).

Regarding claim 3, Tashiro discloses a highlight and shadow point are detected from the histogram (Tashiro in col. 9, lines 65-67 thru col. 10, lines 1-3, states "In the detection of the lightness level  $I_{\max}$  [highlight point] the frequencies are checked from the 255<sup>th</sup> level to toward the 0<sup>th</sup> level, 0 is given  $I_{\min}$  [shadow] and 255 is given  $I_{\max}$  [highlight]".) and

the image processing condition is set in accordance with detected highlight and shadow points (Tashiro in col. 14, lines 20-27, states "FIG. 17 shows a histogram of an original. As shown in FIG 17, an original of the normal image type is subjected for processing for increasing density of light character portion [shadow/information portion] without recording a background portion [highlight/non-information]. This corresponds to . the image processing condition is set in accordance with detected highlight and shadow points).

Regarding claim 4, Tashiro disclose inputting a drawing instruction (Tashiro in col. 12, lines 22-24, states "In the main scan operation [copying operation as shown in col. 12, lines 45-46] an original image is reproduced using table corresponding to in step S2 in figure 8 which corresponds to inputting a drawing instruction); and

judging through analysis of drawing instruction whether the original image is an image picture (Tashiro in col. 12, lines 22-24, states "In the main scan operation [copying operation as shown in col. 12, lines 45-46] an original image is reproduced using table corresponding to in step S2 in figure 8 and figure 8 step S2 shows detecting feature points of histogram and in col. 9, lines 24-30, Tashiro shows based on the feature points of histogram it is judged if the original is background image or characters. This corresponds to judging through analysis of drawing instruction whether the original image is an image picture [characters] or background).

Regarding claim 5, Tashiro disclose the image processing is performed independently for each image (Tashiro in col. 12, lines 38-44, states "An original image can be recorded while emphasizing a character portion without recoding a background. portion. An original having gradation characteristics such as photograph can be recorded without impairing gradation characteristics". This corresponds to the image processing is performed independently for each image).

Regarding claim 6, Tashiro discloses a highlight and shadow point are detected from the histogram (Tashiro in col. 9, lines 65-67 thru col. 10, lines 1-3, states "In the detection of the lightness level  $I_{max}$  [highlight] the frequencies are checked from the 255<sup>th</sup> level to toward the 0<sup>th</sup> level, 0 is given  $I_{min}$  [shadow] and 255 is given  $I_{max}$ ) and

whether the original image is an image picture is judged from detected highlight and shadow points (Tashiro, col. 13, lines 25-30, states "In this

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histogram [Figure 9] a range of signal levels [luminance signal level] to have  $I_{max}$  [highlight] as center corresponds to a background portion [non information portion] and range from  $I_{min}$  [shadow] to non information portion corresponds to character portion [an information portion]". This corresponds to whether the original image is an image picture or not is judged from detected highlight and shadow points.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 10-11 and 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Takemoto (US 6,151,136) .

Regarding claim 10 and 17-18 discloses Takemoto discloses correction process in accordance with a highlight and shadow point of an original image (Takemoto in col. 4, lines 60-65, thru col. 5, lines 1-5 states "set automatically highlight and shadow density in the data and these densities are set to minimal and maximum values of the dynamic range of the output medium to ensure that the density range of the original image which may be underexposed or overexposed is always adjusted to the range of the output medium so as to

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create a conversion function or table". This corresponds to correction process in accordance with a highlight and shadow point of an original image) comprising:

forming a histogram of hue of the original image (Takemoto, in col. 7, lines 26-27, states "constructing hue histogram" and shows in FIG. 3A hue histogram which corresponds to forming a hue histogram of the original image);

judging from the shape of formed histogram of hue whether the original image is subject to the image correction (Takemoto in FIG. 3A shows histogram of hue versus pixel frequency, and Takemoto in col. 7, lines 41-45, states "hue histogram of the pixels outside the color gamut of the printed matter is cut off by reference to a threshold for the frequency value so as to extract hue ranges from the pixel frequencies outside the color gamut of the printed matter". This corresponds to judging from the shape [pixel frequencies above or below threshold frequency] of formed histogram of hue whether the original image is subject to the image correction); and

controlling the image correction in accordance with the judged result (Takemoto in col. 7, lines 65-67 thru col. 8, lines 1-5, hue range H1-H2 has been extracted by a threshold 40 from hue histogram show in FIG. 3B and FIG. 4B shows the lightness histogram is constructed for all the pixels within the hue range H3-H4 [below threshold] and col. 8, lines 13-19, the cumulative frequency range of 2% is cut off at the higher and lower ends to determine the range of lightness of the group of pixels outside the color gamut of the printed matter and this is to produce only the group of pixels having appropriate lightness". This



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corresponds to controlling the image correction in accordance with the judged result).

Regarding claim 11, dispersed values of the histogram are obtained (Takemoto in FIG. 3A shows histogram of hue versus pixel frequency, and Takemoto in col. 7, lines 41-45, states "hue histogram of the pixels outside the color gamut of the printed matter is cut off by reference to a threshold for the frequency value so as to extract hue ranges from the pixel frequencies outside the color gamut of the printed matter". This corresponds to dispersed values of the histogram are obtained);

whether the image correction is performed is judged from the disperse values (Takemoto in col. 7, lines 41-45, states "hue histogram of the pixels outside the color gamut of the printed matter is cut off by reference to a threshold for the frequency value so as to extract hue ranges from the pixel frequencies outside the color gamut of the printed matter". This corresponds to whether the image correction is performed is judged from the disperse values).

### **Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takemoto (US 6,151,136) in view of Tashiro et al. (5748773).

Takemoto discloses a drawing instruction (Takemoto in col. 11, lines 16-18, states "hue range may or may not be compressed in response to an external command or entry from keyboard". This corresponds to a drawing instruction).

Takemoto however has not disclosed whether the original image is an image picture is judged through analysis of drawing instruction.

In the same field of endeavor Tashiro discloses whether the original image is an image picture is judged through analysis of drawing instruction (Tashiro in col. 12, lines 22-24, states "In the main scan operation [copying operation as shown in col. 12, lines 45-46] an original image is reproduced using table corresponding to in step S2 in figure 8 and figure 8 step S2 shows detecting feature points of histogram and in col. 9, lines 24-30, Tashiro shows based on the feature points of histogram it is judged if the original is background image [non-information] or characters [information]. This corresponds to judging through analysis of drawing instruction whether the original image is an image picture).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made use the teaching Tahiro of judging through the analysis of drawing instruction whether the original image is an image picture in the system of Takemoto because such a process provide setting optimum image processing condition based on image area such as characters, background and photograph.

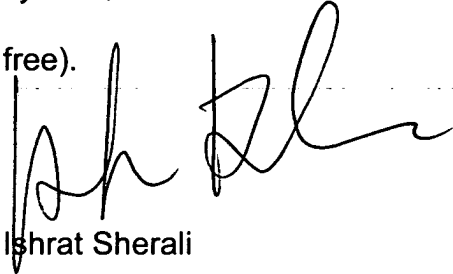
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## Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherali Ishrat whose telephone number is 703-308-9589. The examiner can normally be reached on 8:00 AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Au Amelia can be reached on 703-308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

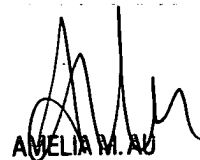


Ishrat Sherali

Patent Examiner

Group Art Unit 2621

March 2, 2005



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